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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,181	02/11/2004	Masafumi Kyogaku	03500.014384.1	2356
5514	7590	07/12/2004	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			WILLIAMS, JOSEPH L	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application N .	Applicant(s)	
	10/775,181	KYOGAKU ET AL.	
	Examiner	Art Unit	
	Joseph L. Williams	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/506,289.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/11/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 09/506,289, filed on 18 February 2000.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 15 and 21-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshioka et al. (US 5,532,544).

Regarding claim 15, Yoshioka ('544) teaches in figure 27 and in column 14, line 10 through column 16, line 27, an electron-emitting device comprising: a first electrically conductive film (1); a second electrically conductive film (2); and a carbon film (16) for emitting electrons disposed to cover a part of the first electrically conductive film.

The limitation of the use of an electrically conductive probe to measure the resistivity of the carbon has not been given patentable weight because it is not germane to the final structure of the device.

Regarding claim 17, Yoshioka ('544) teaches in figure 25 that the carbon film has a gap at a part thereof, the first electrically conductive film is connected to a first end of

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the carbon film, and the second electrically conductive film is connected to a second end of the carbon film.

Regarding claim 18, Yoshioka ('544) teaches the first end of the carbon film is connected through the first electrically conductive film to a first electrode and the second end of the carbon film is connected through the second electrically conductive film to a second electrode.

Regarding claim 19, Yoshioka ('544) teaches a gap disposed between the first and second electrically conductive films, the carbon film is disposed between the first and second electrically conductive films and on the first and second electrically conductive films.

Regarding claim 21, Yoshioka ('544) teaches that the first and second electrodes are made of Pt.

Regarding claims 22 and 23, Yoshioka ('544) teaches that the electron-emitting device can be part of an electron source and an image-forming member.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka et al. (US 5,532,544) in view of Tsukamoto et al. (US 5,986,389).

Regarding claim 16, Yoshioka ('544) teaches all of the claimed limitations except for the carbon film being an amorphous structure or a graphite structure.

Further regarding claim 16, Tsukamoto ('389) teaches in column 13, lines 1-11 that the carbon film in an electron-emitting device can be of an amorphous structure or a graphite structure for the purpose of reducing the fluctuations of the emission current and thus improve the efficiency of the device.

Hence it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the carbon film of Tsukamoto in the device of Yoshioka for the purpose of reducing the fluctuations of the emission current and thus improve the efficiency of the device.

Regarding claim 20, Tsukamoto ('389) teaches that the first and second electrically conductive films have a resistance of 10^2 to 10^7 ohms/squared.

The reason for combining is the same as for claim 15 above.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph L. Williams whose telephone number is (571) 272-2465. The examiner can normally be reached on M-F (6:30 AM-3:00 PM).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Joseph Williams
Primary Examiner
Art Unit 2879